

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

THE INVENTION

The present invention is directed to a rotary movement converting mechanism for converting a rotary movement of a rotary body into a linear movement of a movable body. A rotary body is provided having a spiral groove on the inner circumference thereof. An approximately cylindrical support body is fixed to a body frame and provided with a slit along an axial direction of the rotary body. A top member is provided to the movable body. The top member includes an engaging member that is inserted through the slit so that a tip end of the engaging member is engaged with the spiral groove of the rotary body.

A stop member is provided that stops a linear movement of the movable body when a load is applied to the linear movement of the movable body. In a feature of the present invention, now added to claim 1 with the present amendment, the stop member has a face in contact with the inner circumference of the support body. In this way, the stop member (clamp screw 41C in the present figures) provides a simplified internal structure for stopping the spindle, thereby achieving constant

measurement pressure. (See, inter alia, page 10, lines 10 et seq. of the present specification.) This feature is not disclosed in the prior art relied upon by the Examiner.

THE REJECTIONS UNDER 35 U.S.C. § 102

Claims 1-5, 7 and 8 had been rejected under Section 102(b) as being anticipated by Tachikake et al. (U.S. Pat. No. 5,495,677). This rejection is respectfully traversed, particularly as applied to the claims as presently amended.

The Tachikake et al. reference is directed to a digital display micrometer. It should be noted that the Tachikake et al. reference is assigned to the present assignee, and represents a prior art device of which the present invention is an improvement. It is therefore respectfully submitted that the Tachikake et al. reference cannot be relied upon to show the new features of the present invention, as recited in the independent claim 1 as presently amended.

Independent claim 1 has been amended to highlight a primary feature of the present invention. A feature of the currently amended claim 1 is the provision of a stop member that stops a linear movement of the movable body when more than a predetermined load is applied on the movable body, the stop member having a face that is movable into contact with the inner circumference of the support body. In other words, the stop member is to be in face-to-face contact with the inner circumference of the movable body, thereby enhancing the stopping ability thereof.

Though the Tachikake et al. reference surely discloses a stop member for stopping the movement of the movable body, only an edge (12B) of the stop

member (12) touches the inner circumference of the inner sleeve (15). In this regard, attention is directed toward Col 5, lines 10-12 of the Tachikake et al. reference wherein interaction between the edge of the stop member and the inner sleeve is clearly described. Minute slide movement along the extension of the edge is likely to occur with this prior art device.

On the other hand, since the present invention employs the face-to-face contact with the inner circumference of the movable body and the abrasion force generated by the contact increase, the linear movement of the movable body can be more securely stopped. Such arrangement requires intricate structures as specifically disclosed in the first and second embodiments of the present invention, which by no means are made obvious by the teaching of the cited reference.

Further, dependent claims 2-8 further define the novel structural features of the present invention. For example, claim 2 defines the stop member (which is movable into face-to-face contact with the inner circumference of the support body) as being a stick member. Tachikake does not teach such a stop member. Moreover, with regard to claim 4, Tachikake does not teach a stop member that is engaged with the top member and the movable body, as required.

In view of the above, it has been shown that the Tachikake et al. reference fails to disclose every feature of the presently claimed invention. Thus, it is respectfully submitted that the Tachikake et al. fails to satisfy the requirements for anticipation as set forth in Section 102. Reconsideration and withdrawal of the outstanding prior art rejection is therefore respectfully requested.

New claims 9-15 are presently added to recite additional features not shown by the prior art. New claim 9 requires that the top member is capable of turning

around an axis extending in a direction orthogonal to the axial direction of the rotary body. The turning movement of the top member causes the stop member to linearly advance toward the inner circumference of the support body. This is best shown by comparison of Figs. 2A and 3A, where it is shown that an application of resisting force on the spindle causes a rotary displacement of the top member 41A. Rotary movement of the top member causes a linear advancement of the stop member 41C, which presses against the inner sleeve 42, stopping further motion. It is considered apparent that these limitations are clearly not shown in the prior art relied upon by the Examiner.

New claim 10 indicates that the stop member defines the top member turning axis, and moves in a direction orthogonal to the axial direction of the rotary body. These features of the invention are not disclosed or suggested in the prior art.

New claim 11 requires that the top member is capable of turning around an axis extending in a direction orthogonal to the axial direction of the rotary body. The stop member is engaged with the top member and the movable body and is disposed between the movable body and the support body, whereby turning movement of the top member upon application of the load on linear movement of the movable body presses the stop member toward the inner circumference of the support body. This is best shown in the embodiment of Fig. 5A, where an application of resisting force on the spindle causes a rotary displacement of the top member 81 which, in turn, pulls the stop member or tapered key such that the tapered portion is wedged between the slide member 22 and the inner sleeve, stopping further motion. Claims 12-15 depend from claim 11 and define further features of the invention. These features are also clearly not shown in the prior art

relied upon by the Examiner. Favorable consideration of new claims 9-15 is therefore respectfully requested.

Applicant thanks the Examiner for the indication of allowable subject matter in claim 6. It is respectfully submitted that the dependent claims 2-15 are also allowable for at least the same reasons as independent claim 1. Reconsideration of the dependent claims is also therefore respectfully requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. KIN-15134.

Respectfully submitted,

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